

1. (Amended) A developer cartridge which is inserted in a direction of a rotating axis thereof and rotatably mounted in a developing unit of an image forming apparatus, and supplies a developer to said developing unit while rotating, comprising a cylindrical cartridge main body having a developer outlet hole in an outer surface near one end, and a ring-like cartridge-side shutter which is fitted on the outer surface near said one end of said cylindrical cartridge main body to be movable along said direction of the rotating axis between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed,

wherein said developing unit has a guide for inserting said developer cartridge and a driving unit for rotating said developer cartridge, said guide has a main body-side shutter with a hole, and when said developer cartridge is inserted, said cartridge-side shutter of said cylindrical cartridge main body moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, the developer outlet hole aligns itself with the hole of said main body-side shutter, and every time said cylindrical cartridge main body and said main body-side shutter integrally rotate to align the developer outlet hole and the hole of said main body-side shutter with a developer replenishment port formed below said main body-side shutter, the developer in said developer cartridge is supplied from the developer replenishment port to said developing unit via the developer outlet hole and the hole of said main body-side shutter.



9. (Amended) A developer cartridge which is rotatably mounted in a developing unit of an image forming apparatus, and supplies a developer to said developing unit while rotating, comprising a cylindrical cartridge main body having a developer outlet hole in an outer surface near one end, and a ring-like cartridge-side shutter which is fitted on the outer surface near said one end of said cylindrical cartridge main body to be movable along a rotating shaft of said cylindrical cartridge main body between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed,

wherein said developing unit has a guide for inserting said developer cartridge and a driving unit for rotating said developer cartridge, said guide has a main body-side shutter





with a hole, and when said developer cartridge is mounted, said cartridge-side shutter of said cylindrical cartridge main body moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, the developer outlet hole aligns itself with the hole of said main body-side shutter, and every time said cylindrical cartridge main body and said main body-side shutter integrally rotate to align the developer outlet hole and the hole of said main body-side shutter with a developer replenishment port formed below said main body-side shutter, the developer in said developer cartridge is supplied from the developer replenishment port to said developing unit via the developer outlet hole and the hole of said main body-side shutter,

wherein said cylindrical cartridge main body is supported by a roller which is in contact with the outer surface and made of an elastic material.



12. (Amended) An image forming apparatus comprising a developing unit for developing an electrostatic latent image on an image bearing body with a developer, and a transfer unit for transferring the developed developer image onto a transfer medium,

wherein said developing unit has a developer cartridge which is inserted in a direction of a rotating axis thereof and rotatably mounted to supply the developer to said developing unit while rotating, a guide for inserting said developer cartridge, and a driving unit for rotating said developer cartridge;

said developer cartridge has a cylindrical cartridge main body having a developer inlet hole in an outer surface near one end, and a ring-like cartridge-side shutter which is fitted on the outer surface near said one end of said cylindrical cartridge main body to be movable along said direction of the rotating axis between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed;

said guide has a main body-side shutter with a hole; and

when said developer cartridge is inserted, said cartridge-side shutter of said cylindrical cartridge main body moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, the developer outlet hole aligns itself with the hole of said main body-side shutter, and every time said cylindrical cartridge main body and said main body-side shutter integrally rotate to align the developer





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outlet hole and the hole of said main body-side shutter with a developer replenishment port formed below said main body-side shutter, the developer in said developer cartridge is supplied from the developer replenishment port to said developing unit via the developer outlet hole and the hole of said main body-side shutter.



(Amended) An image forming apparatus comprising a developing unit for developing an electrostatic latent image on an image bearing body with a developer, and a transfer unit for transferring the developed developer image onto a transfer medium,

wherein said developing unit has a developer cartridge rotatably mounted to supply the developer to said developing unit while rotating, a guide for inserting said developer cartridge, and a driving unit for rotating said developer cartridge;

said developer cartridge has a cylindrical cartridge main body having a developer inlet hole in an outer surface near one end, and a ring-like cartridge-side shutter which is fitted on the outer surface near said one end of said cylindrical cartridge main body to be movable along a rotating shaft of said cylindrical cartridge main body between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed:

said guide has a main body-side shutter with a hole;

when said developer cartridge is mounted, said cartridge-side shutter of said cylindrical cartridge main body moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, the developer outlet hole aligns itself with the hole of said main body-side shutter, and every time said cylindrical cartridge main body and said main body-side shutter integrally rotate to align the developer outlet hole and the hole of said main body-side shutter with a developer replenishment port formed below said main body-side shutter, the developer in said developer cartridge is supplied from the developer replenishment port to said developing unit via the developer outlet hole and the hole of said main body-side shutter,

wherein said cylindrical cartridge main body is supported by a roller which is in contact with the outer surface and made of an elastic material.



